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10/666,422	09/18/2003	Hirokazu Takenaka	2271/71084	7448

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EXAMINER
MOTSINGER, SEAN T

ART UNIT	PAPER NUMBER
2624	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
	10/666,422	TAKENAKA ET AL.
Office Action Summary	Examiner	Art Unit	
	SEAN MOTSINGER	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>01 February 2008</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
   closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>32 and 37-61</u> is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>32 and 37-61</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>18 September 2003</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☒ All   b)☐ Some *   c)☐ None of:

   1.☒ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
      application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

U.S. Patent and Trademark Office
PTOL-326 (Rev. 08-06)   **Office Action Summary**   Part of Paper No./Mail Date 20080408

Response to Applicants Arguments

Applicants arguments filed on 2/1/2008 have been fully considered but are not persuasive.

Applicant's arguments with respect to claim the present claims have been considered but are moot in view of the new ground(s) of rejection.

Objections to the Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Rejections Under 35 U.S.C. 112 First Paragraph

Claim 32, and 37-61 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. These claims constitute new matter. First there is not mention of "defining a plurality of tetrahedrons each being formed by connecting said first line a second line and an additional line connecting said first and second endpoints and additional lines connecting an additional point with said starting point with said first end point and with the second end point." No such tetrahedron has been mentioned in the specification. Furthermore there is no mention in the

specification of performing "interpolation" on the identified tetrahedron or performing

interpolation "if said input color is not substantially within the color range of memory

color."

Although the specification does describe a tetrahedron defined by a first line

second line, and third line as well as line connecting the endpoints of said lines; There is

no mention of performing interpolation using this tetrahedron "if said input color is

substantially within said color range of memory color" in fact it appear that this is not

always the case. The tetrahedron RYS1K as defined in the paragraph 182 does not

include the first line and yet is interpolated to find for a region close to the memory color.

Therefore the condition above is not true in the specification.

Furthermore in dependent claims 55 and 58 there is a clear conflict with the way

the tetrahedrons are being defined in the claims from which they depend for example

this embodiment is depicted in figure 23 note some of the shapes interpolated from in

this embodiment are not even tetrahedrons i.e. the "pentahedron" defined by G'Y'YGK,

see paragraph 187. Furthermore this embodiment appears to have nothing to do with

memory colors further making it incompatible with the tetrahedrons of the claims from

which they depend.

Rejections Under 35 U.S.C. 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 32, 37-42, 44-51, 53-57, and 59-61 are rejected under 35 U.S.C. 103 as being anticipated by Saito US 2002/0021458 in view of Asada 5,018,008.

Re claim 32 Saito discloses An image processing method for converting an input color signal, being input to an image output apparatus, into a color material signal, the image processing method comprising the steps of: defining a first line (BK-W see figure 4a) including a starting point (BK) and a first end point (W) as end points of the first line; defining one or more second lines (BK-R figure 4A), each second line including said starting point (BK) and a corresponding second end point (R) as end points of the second line; defining one or more third lines (BK-M figure 4A), each third line including said starting point (BK) and a third end point (M) as end points of the third line; determining one or more color material signals (color separation tables paragraph 57) on the first, second, and third lines; defining a plurality of tetrahedrons (See figures 4A-4F), each being formed by connecting said first line (BK-W figure 4a), a corresponding one of said plurality of second lines (BK-R figure 4a), an additional line connecting said first and second end points (W-R), and additional lines (BK-M, M-R, and M-W) connecting an additional point (Third point M) with said starting point (BK) , with said

first end point (W) and with the second end point (R of the corresponding second line

(see figure 4A), respectively, identifying one of said tetrahedrons having the input color

signal situated therein and obtaining said color material signal by performing

interpolation on the identified tetrahedron (perform interpolation paragraph 58), if said

input color signal is not substantially within a color range of memory color (note in the

Saito this is always preformed and will therefore will be preformed under then above

condition); defining a tetrahedron formed by said first line (BK-W), one of said second

lines (BK-R), one of said third lines (BK-M), and other lines (M-W, W-R, M-R)

connecting the third end point of the one of the third lines with the second end point of

the one of the second lines, and connecting the first end point with the third end point of

the one of the third lines and with the second end point of the one of the second lines

(See figure 4a), respectively, obtaining said color material signal-by interpolation

according to the first, second, and third lines forming said tetrahedron (perform

interpolation paragraph 58), if said input color signal is substantially within said color

range of memory color (note in the Saito this is always preformed and will therefore will

be preformed under then above condition), wherein the first line is an achromatic line in

a reproducible color range of the image output apparatus (see figure 2B note Bk-W is

defined between black and white and has no color), the one of the second lines is a line

situated on an outermost boundary line of the reproducible color range (see figure 2B),

and the one of the third lines are is a line situated within the reproducible color range

of the image output apparatus (note the lines are situated in the reproducible cube see

figure 2B).

Saito does not disclose wherein the color range of memory color includes human skin color, ocean blue color, sky blue color, and plant green color. This is a well known predictable list of memory colors that one of ordinary skill in the art would be aware of (See Assada column1 lines 24-26). This list of memory colors would not really alter Saito and therefore results would be predictable. Therefore the combination of Saito and Assada would have been obvious to one of ordinary skill in the art.

Re claim 37 Saito further discloses wherein the one or more color material signals allocated on the first, second, and third lines are one or more signals of same color having different density (note this is clear from the color space depicted in Fig. 2B. the lines define a color with different brightness.)

Re claim 38 Saito further discloses wherein the one or more color material signals allocated on the first, second, and third lines are one or more signals of black(C M Y K ink paragraph 74)

Re claim 39 Saito further disclose wherein the one or more color material signals of black allocated on the one or more third lines are allocated to determine a maximum amount of black for a black signal situated between the first line and the one or more third lines (paragraph 58) note the lines are interpolated to figure out color separation (ink allocation) .

Re claim 40 Saito further discloses wherein the one or more color material signals of black (black ink) allocated on the one or more second lines are allocated to determine a maximum amount of black (optimum UCR) for the one more color materials of black and obtain a maximum range for the reproducible color range (color reproduction region). (see paragraphs 57 -59)

Re claim 41 Saito further disclose wherein the one or more color-material signals of black are allocated to be black starting points (K ink start points paragraph 56) at which graininess is unnoticeable (paragraph 59).

Re claim 42 Saito further discloses wherein the one or more color material signals are allocated according to a designation of a user (see claim 4)

Re claim 44 Saito further discloses further comprising a step of creating a table indicative (color separation table paragraph 58) of the obtained color material signal corresponding to the input color signal.

Re claim 45 Saito further discloses An image processing apparatus comprising: a CPU, wherein the CPU converts an input color signal into a color material signal by referring to the table as set forth in claim 44 (see paragraph 110).

Re claim 59 Saito further discloses wherein the first line is a line extending between white and black (Bk- W see figure 21), wherein the one or more second lines are one or more lines extending between black and a primary color and/or a secondary colors (Bk-R figure 21) wherein the one or more third lines are one or more lines connecting black with one or more points situated between white and a primary color or a secondary color (BK-GC figure 21).

Re claim 60 Saito further discloses wherein the amount of black for each point on the first second and third lines is determined according to distance from black (paragraph 59)

Re claim 61 wherein a black starting point for a third line starts (BK C figure 2c) later compared to black starting points for the other lines (Figure 2C note the black starting point for C (C0) starts the latest compared to the other lines).

Re Claim 46 Saito discloses An image processing method for converting an input color signal, being input to an image output apparatus, into a color material signal, the image processing method comprising the steps of: defining a first line (BK-W see figure 4a) including a starting point (BK) and a first end point (W) as end points of the first line; defining one or more second lines (BK-R figure 4A), each second line including said starting point (BK) and a corresponding second end point (R) as end points of the second line; defining one or more third lines (BK-M figure 4A), each third line including

said starting point (BK) and a third end point (M) as end points of the third line;

determining one or more color material signals (color separation tables paragraph 57)

on the first, second, and third lines; defining a plurality of tetrahedrons (See figures 4A-

4F), each being formed by connecting said first line (BK-W figure 4a), a corresponding

one of said plurality of second lines (BK-R figure 4a), an additional line connecting said

first and second end points (W-R), and additional lines (BK-M, M-R, and M-W)

connecting an additional point (Third point M) with said starting point (BK) , with said

first end point (W) and with the second end point (R of the corresponding second line

(see figure 4A), respectively, identifying one of said tetrahedrons having the input color

signal situated therein and obtaining said color material signal by performing

interpolation on the identified tetrahedron (perform interpolation paragraph 58), if said

input color signal is not substantially within a color range of memory color (note in the

Saito this is always preformed and will therefore will be preformed under then above

condition); defining a tetrahedron formed by said first line (BK-W), one of said second

lines (BK-R), one of said third lines (BK-M), and other lines (M-W, W-R, M-R)

connecting the third end point of the one of the third lines with the second end point of

the one of the second lines, and connecting the first end point with the third end point of

the one of the third lines and with the second end point of the one of the second lines

(See figure 4a), respectively, obtaining said color material signal-by interpolation

according to the first, second, and third lines forming said tetrahedron (perform

interpolation paragraph 58), if said input color signal is substantially within said color

range of memory color (note in the Saito this is always preformed and will therefore will

be preformed under then above condition).

Saito does not disclose wherein the color range of memory color includes human skin

color, ocean blue color, sky blue color, and plant green color. This is a well known

predictable list of memory colors that one of ordinary skill in the art would be aware of

(See Assada column1 lines 24-26). This list of memory colors would not really alter

Saito and therefore results would be predictable. Therefore the combination of Saito

and Assada would have been obvious to one of ordinary skill in the art.

Re claims 47-51, 53-57 these claims although depending from a broader independent

claim contain the same language as claims 41, 38, 39, 40, 42, 44, 45, 58, 60, and 61

respectively. These claims are likewise disclosed by Saito and Assada.

Claims 43, 52, 59, rejected under 35 U.S.C. 103(a) as being unpatentable over

Saito and Assada in further view of Murakami et al 5,930,388.

Re claim 43 Saito discloses all of the elements of claim 32, Murakami discloses

wherein the one or more third lines (further division column 4 line 64) are controlled

according to a characteristic of an input image (required output accuracy column 12 line

29 The motivation to combine is to reduce the occurrence of errors when correcting

color requiring highly accurate color correcton. (column 2 lines 15-16). Therefore it

would have been obvious to combine Murakami and Saito to add more lines to reach

the aforementioned advantage

Re claim 58 Saito discloses all of the elements of claim 32 and wherein the first

line is a line extending between white and black, wherein the one or more second lines

are one or more lines extending between black and a primary color and/or a secondary

color, Saito does not disclose wherein the one or more third lines are one or more lines

passing through a color range for memory color. Murakami discloses wherein the one or

more third lines (further dividing column 4 line 64) are one or more lines passing

through a color range for memory color (flesh tones column 4 line 62). Therefore it

would have been obvious to combine Murakami and Saito to add more lines to reach

the aforementioned advantage.

Re claim 52 this claim although depending from a broader independent claim contain

the same language as claim 43. This claims are likewise disclosed by Saito, Assada

and Murakami.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to SEAN MOTSINGER whose telephone number is

(571)270-1237. The examiner can normally be reached on 9-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Bhavesh Mehta can be reached on (571)272-7453. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Motsinger
4/10/2008
/Bhavesh M Mehta/
Supervisory Patent Examiner, Art Unit 2624